

Patent claims

1. An electronic component with a semiconductor chip
(2), a wiring board (3) and a plastic package (4),
5 the plastic package (4) having two plastic package
molding compounds (23) arranged one on top of the
other, one of which completely encloses at least
the edge regions of the semiconductor chip (2) as a
first layer (5) and the other of which is arranged
10 on the back side of the semiconductor chip (2) as a
second layer (6).
2. The electronic component as claimed in claim 1,
characterized in that the plastic package molding
15 compound (23) of the first layer (5) in the
uncrosslinked state has a lower viscosity than the
second layer (6).
3. The electronic component as claimed in claim 1,
20 characterized in that the viscosities of the first
and second layers (5, 6) in the uncrosslinked state
differ in such a way that the viscosity of the
first layer (5) is lower by at least an order of
magnitude than the viscosity of the second layer
25 (6).
4. A panel with a number of component positions (18)
for electronic components (1), the panel (36)
having a leadframe (20), which has in each
30 component position (18) a bonding channel opening
(14) which is filled with a plastic covering
compound (17), and the panel (36) having a number
of spaced-apart semiconductor chips (2), the
intermediate spaces (12) of which are filled with a
35 first layer (5) of plastic package molding compound
(23) and the back sides (10) of which are covered
with a second layer (6) of plastic package molding
compound (23).

5. The panel as claimed in claim 4, characterized in that the plastic package molding compound (23) of the first layer (5) in the uncrosslinked state has a lower viscosity than the second layer (6).
6. The panel as claimed in claim 4 or claim 5, characterized in that the viscosities of the first and second layers (5, 6) in the uncrosslinked state differ in such a way that the viscosity of the first layer (5) is lower by at least an order of magnitude than the viscosity of the second layer (6).
7. A method for producing a panel from a leadframe for a number of electronic components (1) in corresponding component positions (18) with semiconductor chips (2), which are encapsulated by two layers (5, 6) of a plastic package molding compound (23), the method having the following method steps:
- provision of a leadframe (20) with a number of component positions (18) which have a bonding channel opening (14) at their center,
 - application of a double-sided adhesive film (26) with a bonding channel opening (14) in the component positions (18),
 - application of semiconductor chips (2) with their active upper sides (5) to the double-sided adhesive film (26),
 - introduction of bonding connections (16) in every bonding channel (15) for electrically connecting contact areas (34) of the semiconductor chip (2) to external contacts (22) on the underside (21) of the leadframe (20),
 - filling of the bonding channel (15) with a plastic covering compound (17),

- printing of a first layer (5) of low-viscosity plastic package molding compound (23) onto the back sides of the semiconductor chips (2) for filling the intermediate spaces (12) between semiconductor chips (2) on the leadframe (20),
- printing on of a second layer (6) of high-viscosity plastic package molding compound (23) for covering the back sides (10) of the semiconductor chips (2),
- curing of the plastic package molding compound (23) to form a closed upper side (11) of the panel (36),
- application of external contacts (22) to the underside of the panel (36).

8. The method as claimed in claim 7, characterized in that the printing on of the first and second layers (5, 6) of low-viscosity and high-viscosity plastic package molding compound (23) takes place by means of screen printing.

9. The method as claimed in claim 7 or claim 8, characterized in that, when printing on the first and second layers (5, 6) of low-viscosity and high-viscosity plastic package molding compound (23), a spatula (24) is pressed under pressure on to a printing screen (25).

10. The method as claimed in one of claims 7 to 9, characterized in that the difference in the viscosity of low-viscosity and high-viscosity plastic package molding compound (23) is set to at least an order of magnitude.

11. The method as claimed in one of claims 7 to 10, characterized in that the second layer (6) of plastic package molding compound (23) is applied

with the same printing screen (25) as the first layer (5) of plastic package molding compound (23).

12. The method as claimed in one of claims 7 to 10,
5 characterized in that, to produce an electronic component (1), the panel (36) is divided into individual electronic components (1).